The author has not recomputed the total attraction of all the disturbing masses, but has merely given in this postscript a computation of the meridional component of the attraction of the table-land *alone*. In accordance with the new information, the height of the table-land is assumed to be uniform, and to be equal to $2\frac{2}{3}$ miles above the level of Kaliana, that is, about 15,000 feet above the sea-level. The resulting northern deflections are as follows:—

At Kaliana	$19''{\cdot}85$
At Kalianpur	$10''{\cdot}28$
At Damargida	$4''{\cdot}29$

Hence the errors produced in the astronomical amplitudes will be $9''{\cdot}57$ and $5''{\cdot}99$, which much exceed the errors ($5''{\cdot}236$ and $-3''{\cdot}791$) brought to light by the survey, on the assumption that the ellipticity of the Indian arc is the mean ellipticity of the whole earth; and the discrepancy will be still further increased when the attraction of the nearer masses is also taken into account.

The new information regarding the nature of the country north of the Himalayas does not, it thus appears, relieve the subject of its difficulties; and no geodetic calculations can be of service in the problem of the figure of the earth, nor indeed in mapping the country with extreme precision, till these perplexities are removed by the deflection being found and allowed for.

March 24th, 1859.

Sir BENJAMIN C. BRODIE, Bart., President, in the Chair.

The following communications were read:—

I. "On the Conic of Five-pointic Contact at any point of a Plane Curve." By A. CAYLEY, Esq., F.R.S. Received March 1, 1859.

(Abstract.)

The tangent is a line passing through two consecutive points of a plane curve, and we may in like manner consider the conic which passes through five consecutive points of a plane curve; and as there are certain singular points, viz. the points of inflexion, where three consecutive points of the curve lie in a line, so there are singular

points where six consecutive points of the curve lie in a conic. In the particular case where the given curve is a cubic, the last-mentioned species of singular points have been considered by Plücker and Steiner, and in the same particular case, the theory of the conic of five-pointic contact has recently been established by Mr. Salmon. But the general case, where the curve is of any order whatever, has not, so far as I am aware, been hitherto considered;—the establishment of this theory is the object of the present memoir.

II. "On the Vertebral Characters of the Order Pterosauria (Ow.) as exemplified in the Genera *Pterodactylus* (Cuv.) and *Dimorphodon* (Ow.)." By Professor Owen, F.R.S. &c. Received February 23, 1859.

(Abstract.)

After mentioning various considerations which have tended to invest the question of the vertebral characters of the Pterodactyles with peculiar interest; above all, in reference to carrying out the comparison of their skeleton with that of birds; the author alludes to the scanty information on the subject already on record, which—with the exception of a remark of Professor Quensted as to the apparently procœlian characters observed by him in a dorsal vertebra of *Pterodactylus Suevicus*, and the apparent want of the trochlear form in the cervical articulations of that animal—affords no available data for comparing the vertebral mechanism of these reptiles with that of other vertebrata adapted for flight; he then gives a summary of his own observations, made, as opportunities presented themselves, for some years past.

From investigations of species of *Pterosauria* extending from the period of the Lias, as exemplified by the *Dimorphodon macronyx*, to the upper green-sand, as exemplified by the *Pterodactylus Sedgwickii* and *Pter. Fittoni*, the author has ascertained the fact, that, with respect to the cervical and dorso-lumbar vertebræ, the terminal articular surfaces of the vertebral bodies are simply concave anteriorly and convex posteriorly, and that they consequently manifest the earliest known instance of the "procœlian" type which now prevails in the reptilian class. But in no other reptile are those arti-